

ORNITHOLOGY.—*The subspecies of the gnatcatcher Polioptila albiloris.*¹ PIERCE BRODKORB, University of Michigan. (Communicated by HERBERT FRIEDMANN.)

Study of the black-capped gnatcatchers of Mexico and Central America is complicated by marked sexual dimorphism and in most cases by equally marked seasonal plumage changes. Until recently seasonal changes were not known to occur or were misunderstood. As a result, the several species and subspecies were hopelessly confused, some authors even going so far as to reduce them to a single wide-ranging species. As clearly demonstrated by van Rossem,² however, the black-capped gnatcatchers are divisible into three major groups which may be summarized as follows:

- A. Cap of male black only in summer; winter male gray-capped like the female at all seasons.
Polioptila nigriceps (northwestern Mexico)
- AA. Cap of male black at all seasons.
 - B. Loral and superciliary regions of male black in summer, partially white only in winter
Polioptila albiloris (southern Mexico and northern Central America)
 - BB. No season change; loral and superciliary regions always entirely white.
Polioptila plumbea (Central and South America)

Van Rossem recognized the *nigriceps* forms as constituting a specific unit, but he reluctantly combined the *albiloris* forms in the same specific unit with *bilineata*, because the two groups were said by others to intergrade. Zimmer³ placed *albiloris* in a separate specific unit from *bilineata*, which latter he considered a subspecies of *Polioptila plumbea*. He stated that *albiloris* and *Polioptila plumbea superciliaris* occur together without intergradation in parts of Nicaragua and Costa Rica. In view of the confusion that existed previous to van Rossem's work, I am inclined to follow Zimmer in disregarding the earlier claims of intergradation between these two forms, especially since I find no evidence of intergradation among the specimens examined by me.

The species here understood as *Polioptila*

albiloris inhabits parts of Mexico and Central America below 1,000 meters altitude, from the state of Nayarit to Costa Rica. It is a bird of arid regions and is thus largely confined to the Pacific side of the continent. It occurs also in arid localities on the Atlantic side in northwestern Oaxaca, in the Grand Valley of Chiapas, on the tip of the Yucatán Peninsula, in the Motagua Valley of Guatemala, and in the interior of Honduras. Within the area outlined above the known distribution of the species is spotty. Several of the apparent gaps in its range are undoubtedly due to lack of exploration. Others are real and divide the range of the species into at least three isolated regions. One such area is the tip of the Yucatán Peninsula. A second is the remainder of the Mexican range of the species outlined above. The third is the Central American part of the range. The last area consists of two sections, on the Atlantic and Pacific sides of Central America, respectively. It is as yet unknown whether these two colonies meet.

Some order may be made of the spotty nature of the range of *Polioptila albiloris* when the distribution of other species of the genus is considered. On the Pacific side the northern limits of *albiloris* are practically coterminous with the southern limits of *Polioptila nigriceps nigriceps*. The southern boundaries of the range of *albiloris* overlap slightly the northern boundaries of the range of *Polioptila plumbea superciliaris*. On the Atlantic side the range of *albiloris* ceases approximately at the beginning of the ranges of *Polioptila caerulea deppei*, *Polioptila caerulea nelsoni*, and *Polioptila plumbea superciliaris*, from north to south, respectively.

In a few places *Polioptila albiloris* has been recorded as occurring together with other resident gnatcatchers. It has been recorded with *Polioptila caerulea deppei* at Tehuantepec and Santa Efigenia, Oaxaca, and at Gualán, Guatemala. *Polioptila caerulea caerulea* is not an uncommon winter visitant in these regions, and since the differences between *deppei* and *caerulea* are

¹ Received March 25, 1944.

² Concerning some *Polioptilae* of the west coast of Middle America, Auk 48, 33–39. 1931.

³ Studies of Peruvian birds: No. XLII, Amer. Mus. Nov., No. 1168: 1–6. 1942.

not very pronounced, it is possible that the above records of *deppei* may have been based on migrants of *caerulea*. All authentic specimens of *deppei* which I have examined are from the Gulf lowlands of Mexico.

Polioptila albiloris albiventris has been recorded from Cozumel Island, where *P. caerulea cozumelae* breeds. This record, based upon two Gaumer-taken specimens, is perhaps open to doubt, since no subsequent collector has found the black-capped species on Cozumel.

Nelson and Goldman collected both *Polioptila albiloris* and *P. caerulea nelsoni* at San Vicente, Chiapas, on the edge of the range of both species.

In parts of Nicaragua and in northwestern Costa Rica *P. albiloris* and *P. plumbea superciliaris* occur together.

In spite of the isolation of several of the populations of *Polioptila albiloris*, subspecific differentiation has not progressed far. This fact possibly argues for the comparatively recent expansion of the species into suitable areas which were at the time unoccupied by other members of the genus.

Acknowledgments.—For the use of material I am indebted to Merriam L. Miles and to the authorities of the Academy of Natural Sciences of Philadelphia, the Donald R. Dickey collection at the University of California at Los Angeles, the Chicago Natural History Museum, the U. S. Fish and Wildlife Service, the Museum of Comparative Zoology, and the United States National Museum. This study was aided by a grant from the Faculty Research Fund by the board of governors of the Horace H. Rackham School of Graduate Studies in the University of Michigan.

Polioptila albiloris vanrossemi, n. subsp.

Polioptila nigriceps [nec Baird] Lawrence, U. S. Nat. Mus. Bull. 4: 12. 1876 (Quiotepec, Tapana [=Tapanatepec], and Santa Efigenia, Oaxaca).—Salvin and Godman, Aves, Biol. Centrali-Amer. 1: 52, part. 1879 (Quiotepec, Tapana, and Santa Efigenia).—Sumichrast, Naturaleza 5: 241. 1882 (Quiotepec, Tapanatepec, and Santa Efigenia, Oaxaca; Tonala, Chiapas).—Ridgway, Proc. U. S. Nat. Mus. 5: 387, part. 1882 (Oaxaca and Tehuantepec).—Herrera, Naturaleza, ser. 2, 3: 196, part. 1899 (Quiotepec, Tapana, and Santa Efigenia).—Ridgway, U. S. Nat. Mus. Bull. 50, pt. 3: 729, part. 1904 (Cuicatlán, Quiotepec, Puerto

Ángel, Tehuantepec, Huilotepec, Tapana, and Santa Efigenia, Oaxaca).—Bangs and Peters, Bull. Mus. Comp. Zool. 68: 398. 1928 (Chivela and Tapanatepec, Oaxaca).

Polioptila nigriceps nigriceps Hellmayr, Tierreich, pt. 18: 25, part. 1903 (Oaxaca and Tehuantepec).—Hellmayr, in Wytsman, Genera avium, pt. 17: 17, part. 1911 (Oaxaca).

Polioptila bilineata nigriceps Griscom, Bull. Mus. Comp. Zool. 75: 398, part. 1934 (Coyuca, Guerrero).⁴

Polioptila albiloris [nec Sclater and Salvin] Lawrence, U. S. Nat. Mus. Bull. 4: 12. 1876 (Santa Efigenia and Tehuantepec City, Oaxaca).—Salvin and Godman, Aves, Biol. Centrali-Amer. 1: 53, part. 1879 (Tehuantepec and Santa Efigenia).—Sumichrast, Naturaleza 5: 241. 1882 (Tehuantepec, Cacoprieto, and Santa Efigenia, Oaxaca).—Ridgway, Proc. U. S. Nat. Mus. 5: 387, part. 1882 (Tehuantepec, Santa Efigenia, and Tapana, Oaxaca).—Sharpe, Cat. Birds Brit. Mus. 10: 454, part. 1885 (Tehuantepec).—Ridgway, Man. North Amer. Birds, p. 569, part. 1887 (Tehuantepec).—Herrera, Naturaleza, ser. 2, 3: 196, part. 1899 (Tehuantepec and Santa Efigenia).—SHARPE, Hand-list 3: 242, part. 1901 (west Mexico).—Hellmayr, Tierreich, pt. 18: 28, part. 1903 (Isthmus of Tehuantepec).—Ridgway, U. S. Nat. Mus. Bull. 50, pt. 3: 725, part. 1904 (Cuicatlán, Tehuantepec, Huilotepec, Santa Efigenia, and Tapana, Oaxaca; description; measurements; bibliography).

Polioptila albiloris albiloris Hellmayr, in Wytsman, Genera avium, pt. 17: 16, part. 1911 (Oaxaca).—Zimmer, Amer. Mus. Nov., No. 1168: 1, 2, 6, part. 1942 (Tapana and Santa Efigenia; criticism; measurements).

Polioptila bilineata albiloris Griscom, Amer. Mus. Novit., No. 414: 7, part. 1930 (Tehuantepec and Chivela; criticism).—van Rossem, Auk 48: 34, part. 1931 (Atlantic drainage of southern Mexico).—Dickey and van Rossem, Publ. Field Mus. Nat. Hist., Zool. ser., 23: 462, in text, part. 1938 (Atlantic drainage of Chiapas).

Polioptila plumbea albiloris Hellmayr, Publ. Field Mus. Nat. Hist., Zool. ser., 13, pt. 7: 504, part. 1934 (southern Mexico).

Polioptila bilineata [nec Bonaparte] Sharpe, Hand-list 3: 242, part. 1901 (Mexico).

Polioptila bilineata bairdi [nec Ridgway] van Rossem, Auk 48: 35, part. 1931 (San Blas, Nayarit).—Dickey and van Rossem, Publ. Field Mus. Nat. Hist., Zool. ser., 23: 462, in text, part. 1938 (San Blas).

Polioptila plumbea bairdi Hellmayr, Publ. Field Mus. Nat. Hist., Zool. ser., 13, Pt. 7: 505, part. 1934 (Santiago and San Blas, Nayarit; Iguala and Tierra Colorado,

⁴ The specimens from Chilpancingo prove upon examination to be *Polioptila caerulea nelsoni*.

Guerrero; Sierra Santo Domingo, Tehuantepec, and Salina Cruz, Oaxaca).—Blake and Hanson, Publ. Field Mus. Nat. Hist., Zool. ser. 22: 542. 1942 (Apatzingán, Michoacán).

Type.—U.S.N.M. 54441; adult male; Quiotepec, District of Cuicatlán, Oaxaca; August 8, 1868; Francis Sumichrast, original number 12.

Characters.—Agrees with other races of *Polioptila albiloris* in having the cap of the male constantly black after the postjuvenile molt; loral and superciliary regions of male entirely black in breeding plumage; loral and superciliary regions of both sexes largely white in winter but with a dark spot (black in male, dusky in female) at anterior corner of eye and with a broad dark postocular stripe.

Differs from other subspecies of *Polioptila albiloris* in having the wing and especially the tail longer; the tail always longer than the wing. Differs further from *P. albiloris albiventris* in darker dorsal and ventral coloration.

Range.—Southern Mexico in the interior and in the Pacific lowlands, from Nayarit (Santiago and San Blas), Michoacán, (Apatzingán), Guerrero (Coyuca, Acapulco, Tierra Colorada, and Iguala), Oaxaca (Quiotepec, Cuicatlán, Puerto Ángel, Tehuantepec, Huilotepec, Salina Cruz, Chivela, Sierra Santo Domingo, Santa Efigenia, and Tapanatepec), to Chiapas (Arriaga, Tonalá, Tuxtla Gutiérrez, San Bartolomé, San Vicente, and Chicomuselo).

Remarks.—The characters of this form are best developed in the District of Cuicatlán, northwestern Oaxaca. Whether its range is continuous from that district across to the Pacific coast is at present unknown. Specimens from the coast, from Acapulco to Puerto Ángel, are slightly atypical. Those from the Grand Valley of Chiapas, while still less typical, are yet closer to the Oaxaca birds than they are to Central American specimens. Birds from the Isthmus of Tehuantepec and the Pacific coast of western Chiapas, on the other hand, resemble *bairdi* at least as much as they do *vanrossemi*. Nevertheless, in view of the hiatus in the range of the species along the Pacific coast between the isthmus and El Salvador, I have thought it expedient to refer the whole Mexican colony to *vanrossemi*.

Zimmer suspected the existence of a long-tailed Mexican subspecies, although the only specimens which he was able to examine were

from the intergrading population of the Isthmus of Tehuantepec.

Specimens examined.—Guerrero (Acapulco, 3). Oaxaca (Quiotepec, 1, type; Cuicatlán, 3; Puerto Ángel, 1; Chivela, 3; Tehuantepec, 4; Huilotepec, 2; Santa Efigenia, 2; Tapanatepec, 1). Chiapas (Arriaga, 4; Tonalá, 9; Tuxtla Gutiérrez and vicinity, 11; San Bartolomé, 2; San Vicente, 1; Chicomuselo, 2). Total, 49.

Polioptila albiloris albiventris Lawrence

Polioptila albiventris Lawrence, Ann. New York Acad. Sci. 3: 273. 1885 (Temax, Yucatán; original description).—Ridgway, Man. North Amer. Birds, p. 569. 1887 (Yucatán; characters).—Stone, Proc. Acad. Nat. Sci. Philadelphia, 1890: 211 (Progreso, Yucatán).—Hellmayr, Tierreich, pt. 18: 24, 1903 (Yucatán).—Ridgway, U. S. Nat. Mus. Bull. 50, pt. 3: 729. 1904 (Temax and Progreso; characters; measurements; bibliography).

Polioptila nigriceps albiventris Hellmayr, in Wytsman, Genera avium, pt. 17: 16. 1911 (Yucatán).

Polioptila bilineata albiventris Griscom, Amer. Mus. Nov., No. 414: 7. 1930 (outer third of Yucatán Peninsula; criticism).

Polioptila plumbea albiventris Hellmayr, Publ. Field Mus. Nat. Hist., zool. ser., 13, pt. 7: 503. 1934 (Temax, Mérida, Progreso, and Cozumel Island; criticism; characters).

Polioptila albiloris albiventris Zimmer, Amer. Mus. Nov., No. 1168: 2, 6. 1942 (Temax; criticism; type in American Museum).

Polioptila bilineata [nec Bonaparte] Boucard, Proc. Zool. Soc. London, 1883: 439 (Progreso).—Salvin, Ibis, ser. 5, 6: 246. 1888 (Cozumel Island).

Polioptila nigriceps [nec Baird] Sharpe, Cat. Birds Brit. Mus. 10: 447, part. 1885 (Mérida, Yucatán).

Characters.—Paler on dorsal and ventral surfaces than any of the other subspecies of *Polioptila albiloris*. Agrees with *vanrossemi* in always having the tail longer than the wing, but differs in having the wing and especially the tail of lesser dimensions.

Range.—Northern Yucatán (Progreso, Temax, and Mérida). Cozumel Island?

Specimens examined.—Yucatán (Progreso, 12).

Polioptila albiloris albiloris Sclater and Salvin

Polioptila albiloris Sclater and Salvin, Proc. Zool. Soc. London, 1860: 298 (original description; Motagua Valley, Guatemala).—Salvin and Sclater, Ibis 2: 397. 1860 (Choacus [= Chuacús], Guatemala; type locality).—Owen, Ibis 3: 61.

pl. 2, fig. 3. 1861 (Choacus; description of nest and eggs).—Gray, Hand-list 1: 237. 1869 (Guatemala).—Sclater and Salvin, Nomenclator Avium Neotrop., p. 4. 1873.—Salvin and Godman, Aves, Biol. Centrali-Amer. 1: 53, pl. 5, figs. 1, 2. 1879 (Chuacús).—Ridgway, Proc. U. S. Nat. Mus. 5: 387, part. 1882 (Guatemala).—Sharpe, Cat. Birds Brit. Mus. 10: 454, part. 1885 (Chuacús; types in British Museum; description; bibliography).—Ridgway, Man. North Amer. Birds, p. 569, part. 1887 (Guatemala).—Herrera, Naturaleza, ser. 2, 3: 196, part. 1899 (Guatemala).—Hellmayr, Nov. Zool. 7: 536, in text. 1900 (criticism).—Sharpe, Hand-list 3: 242, part. 1901 (Guatemala).—Hellmayr, Tierreich, pt. 18: 28, part. 1903 (Guatemala).—Ridgway, U. S. Nat. Mus. Bull. 50, pt. 3: 725, part. 1904 (Chuacús; bibliography).—Dearborn, Publ. Field Mus. Nat. Hist., orn. ser., 1: 136. 1907 (E. Rancho and Gualán, Guatemala).

Polioptila albiloris albiloris Hellmayr, in Wytsman, Genera Avium, pt. 17: 16, part. 1911 (Chuacús).—Zimmer, Amer. Mus. Nov., No. 1168: 1, 2, 6, part. 1942 (Progreso, Guatemala; criticism; measurements).

Polioptila bilineata albiloris Griscom, Amer. Mus. Nov., No. 414: 7, part. 1930 (Motagua Valley, from Progreso to Gualán, Guatemala; criticism; reduces *nigriceps*, *restrica*, and *bairdi* to synonymy).—van Rossem, Auk 48: 34, part. 1931 (interior Guatemala; criticism; measurements; seasonal changes).—Griscom, Bull. Amer. Mus. Nat. Hist. 64: 288. 1932 (Progreso, Mus. Nat. Hist. 64: 288. 1932 (Progreso,

Guatemala).—Carriker and de Schauensee, Proc. Acad. Nat. Sci. Philadelphia 87: 439. 1935 (Gualán, [San Pablo near] Zacapa, El Rancho, and Marajuma, Guatemala).—Dickey and van Rossem, Publ. Field Mus. Nat. Hist., zool. ser., 23: 462, in text, part. 1938 (Atlantic drainage of northern Central America; criticism).

Polioptila plumbea albiloris Hellmayr, Publ. Field Mus. Nat. Hist., zool. ser., 13, pt. 7: 504, part. 1934 (Chuacús, El Rancho, and Gualán; bibliography).

Polioptila bilineata [nec Bonaparte] Stone, Proc. Acad. Nat. Sci. Philadelphia 84: 331. 1932 (Cantarranas, Honduras).

Polioptila bilineata bairdi [nec Ridgway] Dickey and van Rossem, Publ. Field Mus. Nat. Hist., zool. ser., 23: 461, part. 1938 (Lake Guija and San José del Sacare, El Salvador).

Characters.—Differs from *Polioptila albiloris albiventris* in darker dorsal and ventral coloration and in having the tail but little if any longer than wing (tail usually shorter than wing). Differs from *Polioptila albiloris vanrosssemi* in having a shorter wing and much shorter tail.

Range.—Motagua Valley of Guatemala (Chuacús, Marajuma, Progreso, El Rancho, San Pablo, and Gualán), the interior of El Salvador (Laguna Guija and San José del Sacare), and the interior of Honduras (Monte Redondo, Comayaguela, Cerro Cantoral, San



Lorenzo, Montaña Vasquez, Hatillo, Cantarranas, and La Flor Archaga).

Specimens examined.—Guatemala (Gualán, 5; San Pablo, 1; El Rancho, 9; Progreso, 4; Marajuma, 1). El Salvador (Lake Guija, 3; San José del Sacare, 1). Honduras (Monte Redondo, 8; Comayaguela, 2; La Flor Archaga, 5; San Lorenzo, 3; Hatillo, 2; Montaña Vasquez, 1; Cerro Cantoral, 1). Total 46.

Polioptila albiloris bairdi Ridgway

Polioptila bairdi Ridgway, Proc. Biol. Soc. Washington 16: 110. Sept. 30, 1903 (original description; San Juan del Sur, Nicaragua, type in U. S. National Museum; Costa Rica); U. S. Nat. Mus. Bull. 50, pt. 3: 726. 1904 (Realejo, Grenada, Suecuyá, and San Juan del Sur, Nicaragua; Liberia, Volcán de Miravalles, and Cartago [?], Costa Rica; description; measurements; bibliography).—Carriker, Ann. Carnegie Mus. 6: 751. 1910 (Bagaces, Miravalles, Bebedero, and Ciruelas, Costa Rica).

Polioptila bilineata bairdi van Rossem, Auk 48: 35, part. 1931 (Costa Rica, Nicaragua, and El Salvador; criticism; characters; measurements; seasonal changes).—Dickey and van Rossem, Publ. Field Mus. Nat. Hist., zool. ser., 23: 461, part. 1938 (Lake Olomega, Río San Miguel, Volcán de San Miguel, La Unión, Volcán de Conchagua, Río Goascorán, Divisadero, Puerto del Triunfo, Zapotitán [?], Barra de Santiago [?], and Colima [?], El Salvador; northwestern Costa Rica; criticism; plumages; color of soft parts; habits; food).

Polioptila plumbea bairdi Hellmayr, Publ. Field Mus. Nat. Hist., zool. ser., 13, pt. 7: 505, part. 1934 (La Unión, El Salvador; Nicaragua; Bebedero, Bagaces, Las Cañas, and Miravalles, Costa Rica; criticism; bibliography).

Polioptila albiloris [nec Sclater and Salvin] Baird, Review Amer. Birds, p. 70. 1864 (Grenada and Realejo, Nicaragua; west coast of Central America).—Ridgway, Proc. U. S. Nat. Mus. 5: 387, part. 1882 (Realejo, Nicaragua; criticism).—Nutting, Proc. U. S. Nat. Mus. 6: 373. 1883 (San Juan del Sur, Nicaragua).—Sharpe, Cat. Birds Brit. Mus. 10: 454, part. 1885 (La Unión, El Salvador).—Ridgway, Man. North Amer. Birds, p. 569, part. 1887 (Salvador; Nicaragua).—Zeledón, Anal. Mus. Nac. Costa Rica 1: 105. 1887 (Liberia and Cartago [?], Costa Rica).—Herrera, Naturaleza, ser. 2, 3: 196, part. 1899 (Nicaragua).—Hellmayr, Tierreich, pt. 18: 28, part. 1903 (Nicaragua; Miravalles, Costa Rica).

Polioptila bilineata albiloris Griscom, Amer. Mus. Nov., No. 414: 7, part. 1930 (northwest Costa Rica; western Nicaragua; criticism).

Polioptila albiloris albiloris Zimmer, Amer.

Mus. Nov., No. 1168: 1, 2, 6, part. 1942 (Matagalpa, León, Calabasas, Volcán de Chinandega, 4 miles north of Chinandega, San Rafael del Norte, Corinto, and Savana Grande, Nicaragua; Bebedero, Las Cañas, and Bagaces, Costa Rica; criticism; measurements).

Polioptila bilineata [nec Bonaparte] Salvin and Godman, Aves, Biol. Centrali-Amer. 1: 52, part. 1879 (La Unión, E. Salvador).—Nutting, Proc. U. S. Nat. Mus. 6: 380, part. 1883 (Suecuyá, Nicaragua).—Sharpe, Handlist 3: 242, part. 1901 (Central America).

Polioptila nigriceps [nec Baird] Salvin and Godman, Aves, Biol. Centrali-Amer. 1: 52, part. 1879 (La Unión, El Salvador).—Sharpe, Cat. Birds Brit. Mus. 10: 447, part. 1885 (La Unión).—Herrera, Naturaleza, ser. 2, 3: 196, part. 1899 (San Salvador).—Sharpe, Hand-list 3: 241, part. 1901 (Salvador).—Ridgway, U. S. Nat. Mus. Bull. 50, pt. 3: 729, part. 1904 (Pacific coast of Central America).

Polioptila nigriceps nigriceps Hellmayr, Tierreich, pt. 18: 25, part. 1903 (San Salvador; Bebedero, Costa Rica); in Wytsman, Genera Avium, pt. 17: 17, part. 1911 (Salvador).

Polioptila leucogastra [nec Wied] Ridgway, Proc. U. S. Nat. Mus. 5: 387, 388, part. 1882 (Grenada, Nicaragua).

Polioptila nigriceps restricta [nec Brewster] Hellmayr, Nov. Zool. 7: 536–538. 1900 ([Bebedero,] Costa Rica).

Polioptila restricta Sharpe, Hand-list 3: 241, part. 1901 (Costa Rica?).

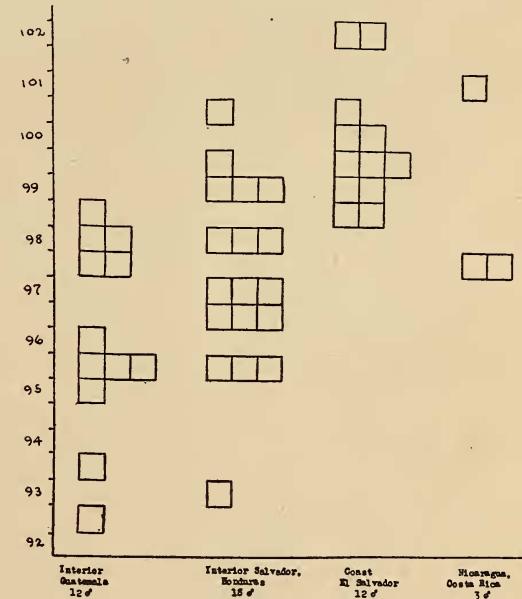


FIG. 2.—Wing length plus tail length (mm.) in *Polioptila albiloris albiloris* and *P. a. bairdii*. Each square represents one specimen.

Polioptila superciliaris superciliaris [nec Lawrence] Ridgway, U. S. Nat. Mus. Bull. 50, pt. 3: 727, part. 1904 (La Unión, El Salvador).

Polioptila (?) Underwood, Ibis, ser. 7, 2: 432. 1895 (Miravalles, Bebedero, and Bagaces, Costa Rica).

Characters.—Differs from *Polioptila albiloris* *albiloris* only in slightly longer wing and tail.

Range.—Pacific lowlands of eastern El Salvador (west to the Río Lempa), Nicaragua, and northwestern Costa Rica (east to the Río Tenorio).

Remarks.—Zimmer synonymized *bairdi* with *albiloris*, since he was unable to find any stable character by which to separate it. Coastal birds tend to have both the wing and the tail longer than those *albiloris* from the interior, but only slightly more than half of my specimens can be determined by using the measurements of the wing and tail separately. By adding the individual wing and tail measurements, however, a clear division results. All the males from the coast of El Salvador have a wing-plus-tail measurement of 98.5 mm. or more, whereas

that measurement in *albiloris* from the Motagua Valley of Guatemala is 98.5 mm. or less. Birds from interior El Salvador and interior Honduras are somewhat intermediate, but are closer to *albiloris* than to the coastal race.

The single Nicaraguan specimen examined (the type of *bairdi*) and the few skins from Costa Rica seem to agree fairly well with those from the coast of El Salvador, but the series is not ample enough to demonstrate this conclusively. Examination of larger series from southern Nicaragua and from Costa Rica, is desirable, since the possibility exists that *Polioptila albiloris* *albiloris* may cross over to the Pacific side in that region, as several other Caribbean forms do. In that event the name *bairdi* would become a synonym of *albiloris*, and the coastal birds of El Salvador would need another name.

Specimens examined.—El Salvador (Puerto del Triunfo, 1; Volcán de San Miguel, 1; Río San Miguel, 5; Divisadero, 9; Laguna Olomega, 6; Volcán de Conchagua, 2; Río Goascorán, 1). Nicaragua (San Juan del Sur, 1, type). Costa Rica (Punta Piedra, 5). Total, 31.

TABLE 1.—MEASUREMENTS (IN MM.) OF *POLIOPТИLA ALBILORIS*

Number	Locality	Wing	Tail	Culmen	Wing plus tail
3 ♂	District Cuicatlán, Oaxaca...	48.5-52 (50.0)	52.5-57.5 (54.7)	12.5-13 (12.8)	101 - 109.5 (104.7)
3 ♂	Acapulco to Puerto Ángel...	46 - 50 (48.5)	47.5-53.5 (50.5)	13.5-14 (13.8)	93.5-103 (99.0)
10 ♂	Grand Valley, Chiapas....	48 - 52 (50.0)	48.5-53 (51.4)	13 - 14 (13.5)	96.5-105 (101.4)
6 ♂	Isthmus of Tehuantepec....	47.5-50.5 (49.4)	47 - 50.5 (48.6)	13 - 14 (13.4)	95.5-101 (98.0)
9 ♂	District Tonalá, Chiapas...	47 - 51 (49.1)	48 - 51.5 (49.8)	13.5-15 (14.4)	97 - 101 (98.6)
12 ♂	Motagua Valley, Guatemala...	47.5-49.5 (48.6)	44.5-49.5 (47.5)	13.5-14 (13.8)	92.5 - 98.5 (96.1)
18 ♂	Interior Salvador, Honduras...	48 - 51 (49.3)	44.5-50 (48.0)	12.8-15 (13.5)	93 - 100.5 (97.3)
14 ♂	Coast of El Salvador.....	49 - 51 (50.1)	48.5-51 (49.7)	12.5-14.5 (13.9)	98 - 102 (99.8)
4 ♂	Nicaragua, Costa Rica	49.5-52.5 (50.7)	46.5-48.5 (47.6)	14 - 14.5 (14.2)	97.5-101 (98.7)
8 ♂	Yucatán.....	44.5-48 (46.8)	45.5-50.5 (48.6)	12 - 14 (13.1)	90 - 98 (95.4)
1 ♀	District Cuicatlán, Oaxaca...	49	51.5	12.5	100.5
1 ♀	Acapulco, Guerrero.....	46	48.5	12.5	94.5
6 ♀	Grand Valley, Chiapas...	46 - 49.5 (47.8)	47.5-50.5 (49.3)	13 - 14 (13.5)	93.5 - 99 (97.1)
6 ♀	Isthmus of Tehuantepec...	45.5-49 (47.6)	47 - 50 (48.2)	12.5-13.5 (13.1)	93 - 98.5 (95.6)
4 ♀	District Tonalá, Chiapas...	46 - 49 (47.3)	47 - 51.5 (48.4)	13.5-14.5 (14.1)	93.5-100.5 (95.6)
8 ♀	Motagua Valley, Guatemala...	45.5-49 (47.1)	45.5-48 (46.6)	13.5-14 (13.6)	91.5 - 95 (93.6)
7 ♀	Interior Honduras.....	45.5-51 (47.7)	45 - 48.5 (46.3)	12 - 14.5 (13.3)	91 - 97 (94.0)
10 ♀	Coast of El Salvador.....	47 - 52.5 (48.2)	44.5-50 (47.7)	13 - 14 (13.4)	91.5-102.5 (95.9)
2 ♀	Costa Rica	47 - 48.5 (47.8)	46.5-47.5 (47.0)	13 - 14.5 (13.8)	94.5-95 (94.8)
4 ♀	Yucatán.....	45.5-47.5 (46.3)	48.5-49 (48.8)	12.8-13.5 (13.2)	94 - 96 (95.0)

TABLE 2.—PROPORTIONS (PERCENT) IN *POLIOPТИLA ALBILORIS*

Number	Locality	Wing/Tail	Culmen/Tail
4 ♂ ♀	District Cuicatlán, Oaxaca.....	90.4 - 95.1 (92.4)	22.6-24.8 (23.7)
4 ♂ ♀	Acapulco to Puerto Ángel.....	92.5 - 99.0 (95.8)	25.8-28.4 (27.0)
16 ♂ ♀	Grand Valley, Chiapas.....	92.1-100.0 (97.1)	25.0-28.3 (26.7)
12 ♂ ♀	Isthmus of Tehuantepec.....	95.8-106.4 (100.2)	26.7-28.1 (27.3)
13 ♂ ♀	District Tonalá, Chiapas.....	98.2-103.1 (98.0)	27.0-33.3 (29.3)
20 ♂ ♀	Motagua Valley, Guatemala.....	97.0-107.9 (101.9)	27.3-31.5 (29.3)
25 ♂ ♀	Interior Salvador, Honduras.....	96.0-110.9 (102.9)	26.1-32.3 (28.3)
24 ♂ ♀	Coast of El Salvador.....	96.0-105.6 (100.9)	25.0-30.3 (28.0)
6 ♂ ♀	Nicaragua, Costa Rica	98.9-108.2 (104.0)	27.4-31.2 (29.7)
12 ♂ ♀	Yucatán.....	92.9 - 98.9 (97.5)	24.0-28.6 (26.9)

